

6 Automated systems – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)		
automated system	自动化系统	_____	_____	_____
sensor	传感器	_____	_____	_____
microprocessor	微处理器	_____	_____	_____
actuator	执行器	_____	_____	_____
feedback	反馈	_____	_____	_____

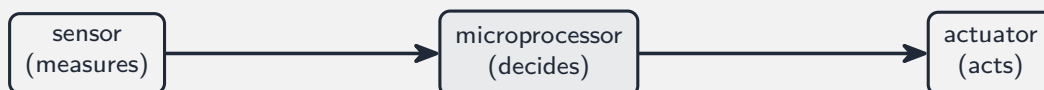
Recall

An **automated system** 自动化系统 does a job by itself, with no person controlling it.

New ideas

Read these first, then do the Practice.

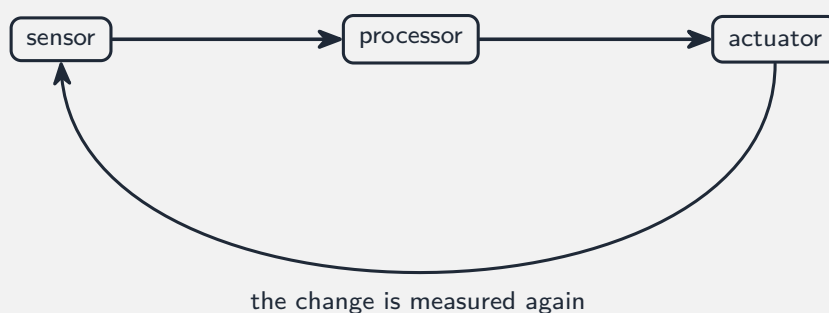
- 1 Sensor, processor, actuator



- a **sensor** 传感器 measures something (e.g. temperature);
- the **microprocessor** 微处理器 decides what to do;
- an **actuator** 执行器 carries out the action (e.g. a motor).

■ 2 Feedback

The action changes the world, and the sensor measures it again —this is **feedback** 反馈:



For example, a thermostat keeps a room at a set temperature.

Watch out: the order is always **sensor** → **microprocessor** → **actuator** —the sensor *measures*, the processor *decides*, the actuator *acts*. **Feedback** means the sensor re-measures the result so the system can adjust.

Practice

Try these in order.

6.1 What is an *automated system*? [1]

6.2 What is the job of a sensor? [1]

6.3 What is the job of an actuator? [1]

6.4 Put these in order: actuator, sensor, microprocessor. [2]

6.5 What is *feedback* in a control system? [1]

6.6 Challenge. A thermostat keeps a room at 20 °C. Describe the role of the sensor, the microprocessor and the actuator in keeping the temperature steady. [3]